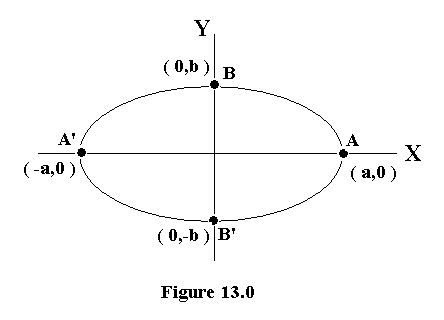
**B) Ellipse**

The general equations of an ellipse is very similar to that of the circle: we could write the equation of the circle as , and because the ellipse is longer in one direction than the other, the divided value beneath the is different than the one under the .

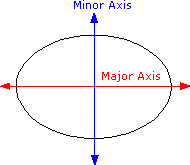
a > b > 0

Centre = (0, 0)

Major axis = 2a (distance btwn horizontal

edges)

Minor axis = 2b

*\* If b > a > 0, then the major axis is 2b, minor axis is 2a.*

**Translation**: Centre = (h, k)

**COMPLETING THE SQUARE FOR AN ELLIPSE**

Examples:

1) Complete the square for the equation and graph the ellipse. Label the main features (centre, horizontal edges, vertical edges).

So the centre is (2, 0), a = 2, b = 1.

Horizontal edges = (4, 0) and (0, 0).

Vertical edges = (2, 1) and (2, -1).

2) Complete the square for the equation and graph the ellipse. Label the main features (centre, horizontal edges, vertical edges).

So the centre is (3, -2), a = 2, b = 1.

Horizontal edges = (5, -2) and (1, -2).

Vertical edges = (3, -1) and (3, -3).

3) Complete the square for the equation and graph the ellipse. Label the main features (centre, horizontal edges, vertical edges).

So the centre is (3, 2), a = , b = .

Horizontal edges = (3 + , 2) and (3 - , 2).

Vertical edges = (3, 2 + ) and (3, 2 - ).

Worksheet

Delta Ex 37.3 pg 362 Q1, 2, 3, 5, 8 (ignore foci)

Extension: Ex 37.3 Q4, 6, 7, 9